



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/817,843	03/26/2001	John U. Knickerbocker	END000008US1	9394

7590 11/23/2005

Connolly Bove Lodge & Hutz LLP
P.O. Box 19088
Washington, DC 20036-3425

EXAMINER

ANDUJAR, LEONARDO

ART UNIT	PAPER NUMBER
----------	--------------

2826

DATE MAILED: 11/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/817,843	Applicant(s) KNICKERBOCKER ET AL.	
	Examiner Leonardo Andújar	Art Unit 2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 35-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 35-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION.

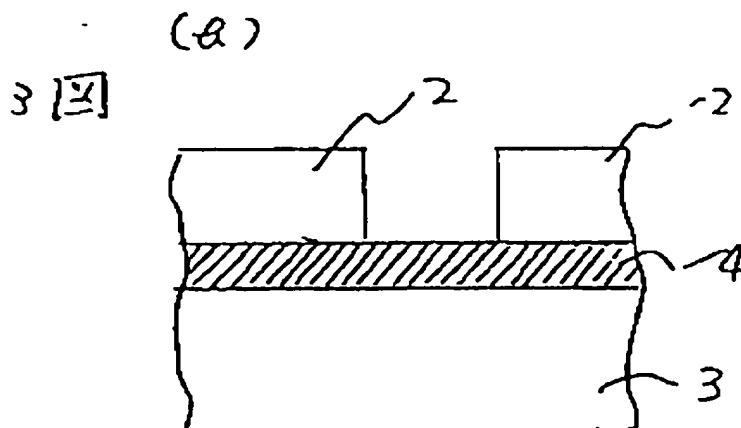
Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 35 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Onda (JP-03296238 A).
3. Regarding claims 1, 35 and 36, Onda (e.g. fig. 3b) teaches an electronic package having a selectively controlled contact pad-laminate surface adhesion comprising: a dielectric packaging substrate 3/4 having a major surface (top surface); and a copper foil 2 laminated to the major surface wherein the copper foil has one side having an smooth portion thereof (bottom surface). Also, the smooth portion contacts the major surface of the dielectric package and has a surface roughness of less than about 1 micron (see attached translation, claims 1-4 and page 2, pp. 6).



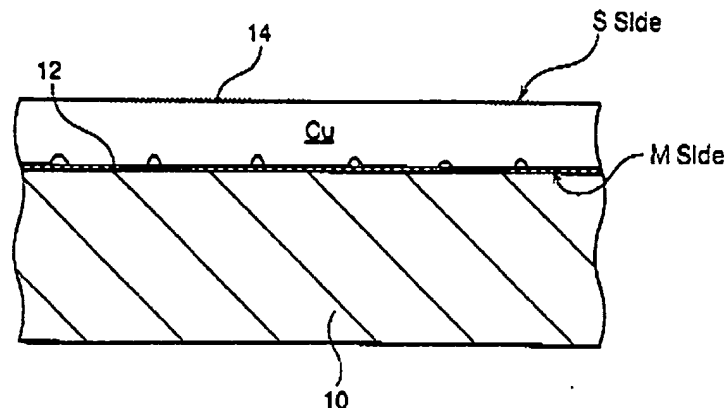
4. Regarding claim 2, Onda discloses that the conductive foil comprises copper (see claim 1).

5. Regarding claim 3, Onda discloses that the conductive foil comprises a high electrical conductivity material such as copper (see claim 1).

6. Claims 1-3 and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Kurabe et al. (US 6,291,081).

7. Regarding claims 1 and 35, Kurabe (e.g. fig. 6) teaches an electronic package having a selectively controlled contact pad-laminate surface adhesion comprising: a dielectric packaging substrate 10 having a major surface (top surface); and a copper foil laminated to the major surface wherein the copper foil has one side having an smooth portion (M side) thereof. The smooth portion contacts the major surface of the dielectric package and has a surface roughness of less than about 2 micron (see abstract & col. 12/lls. 55-67).

Fig.6



8. Regarding claim 2, Kurabe discloses that the conductive foil comprises copper (see abstract).
9. Regarding claim 3, Kurabe discloses that the conductive foil comprises a high electrical conductivity material such as copper (see abstract).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

Art Unit: 2826

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 37 is rejected under 35 U.S.C. 103(a) as being obvious over Onda (JP-03296238 A).

13. Regarding claim 37, Onda shows conductive foil having a surface roughness of 0.01-1.0 microns (see claim 4). However, the specific roughness claimed by applicant, i.e., less than 0.01 microns, absent any criticality, is only considered to be the "optimum" roughness value of the conductive surface disclosed by the Prior Art that a person having ordinary skill in the art would have been able to determine using routine experimentation based, among other things, on the desired accuracy, manufacturing costs, etc. (see *In re Boesch*, 205 USPQ 215 (CCPA 1980)), and since neither non-obvious nor unexpected results, i.e., results which are different in kind and not in degree from the results of the prior art, will be obtained as long as an opening in the housing is used as already suggested by the Prior Art. Note that Onda suggests that the surface roughness is a variable that can be subjected to optimization (see page 2/lis. 26-32).

14. Claims 36 and 37 are rejected under 35 U.S.C. 103(a) as being obvious over Kurabe et al. (US 6,291,081).

15. Regarding claims 36 and 37, Kurabe shows conductive foil having a surface roughness of 1 micron (see abstract). However, the specific roughness claimed by applicant, i.e., less than 1.0 or 0.01 microns, absent any criticality, is only considered to be the "optimum" roughness value of the conductive surface disclosed by the Prior Art that a person having ordinary skill in the art would have been able to determine using

Art Unit: 2826

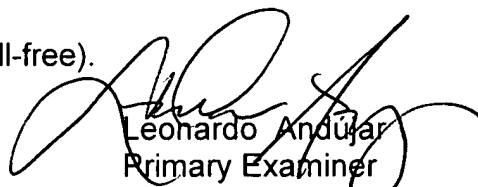
routine experimentation based, among other things, on the desired accuracy, manufacturing costs, etc. (see *In re Boesch*, 205 USPQ 215 (CCPA 1980)), and since neither non-obvious nor unexpected results, i.e., results which are different in kind and not in degree from the results of the prior art, will be obtained as long as an opening in the housing is used as already suggested by the Prior Art. Note that Kurabe suggests that the surface roughness is a variable that can be subjected to optimization (col. 3/lis. 18-40 & col. 4/lis. 32-51).

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonardo Andújar whose telephone number is 571-272-1912. The examiner can normally be reached on Mon through Thu from 9:00 AM to 7:30 PM EST.

17. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

18. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Leonardo Andújar
Primary Examiner
Art Unit 2826



Sharon A. Gibson
Director
Technology Center 2800